

ORNL/TM 7386

SOW Assessment of EM Program

June 1988

APPROVAL FOR RELEASE

Miscellaneous Info attached to 5/3/74 letter,
Document: # ~~CC Hopkins to RG Jordan, "Radioactive~~
Title/Subject ~~Release Inventory" 1 page letter~~

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Quinn Smith
K-25 Classification & Information Control Officer

12/13
Date

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(This section to be completed by ChemRisk)

Name S. Sandberg / Division ISD is requested to provide the following document

Address _____

Date of Request 12/10 Expected receipt of document 12/21

Title of requested document Radioactive Release Inventory

Document Number 800801

Access Number of Document _____ Date of Document 5/3/74

(This section to be completed by Derivative Classifier)

Derivative Classifier T.C. Jordan Phone 4 1645

Date document transmitted to Dr. Quist 11/5/93 1/29/93

Date release received from Dr. Quist 082 O.K. 1/29/93

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DOCUMENT DESCRIPTION (to be completed by requester)

Document number UNNUMBERED/800801 Pages 6

Document title RADIOACTIVE RELEASE INVENTORY

Author(s) (indicate other divisions or organizations, if applicable) CC HOPKINS

Document type (See Doc. Prep. Guide, Chs. 1 and 2, for definitions of document types):

- ☐ Formal Report ☐ Progress Report ☐ Informal R&D Report ☐ Abstract ☐ Drawing
☐ Administrative ☒ Correspondence ☐ Internal Technical Data ☐ Photo ☐ Other Visuals
☐ Journal Article (identify journal): _____
☐ Oral Presentation (identify meeting, sponsor, location, date): _____

Will oral presentation be published in program, booklet, brochure, etc.? ☐ Yes ☐ No ☐ Not Known

Will copies of the oral presentation be distributed ☐ before, ☐ after, ☐ during the meeting? ☐ No distribution will be made.

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Purpose of release HEALTH STUDY FEASIBILITY PROJECT

Previously cleared documents containing similar information _____

Is copyrighted material contained in this document? (If present, attach release.) ☐ Yes ☒ No

Remarks _____

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Date 1/14/93

DOCUMENT NUMBER: UNNUMBERED/800801

DOCUMENT TITLE: SUMMARY (HAND WRITTEN)

AUTHORS: NO AUTHOR GIVEN

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DOCUMENT DATE: NO DATE

PURPOSE OF RELEASE: HEALTH STUDY FEASIBILITY REPORT

COPY RIGHTED MATERIAL: NO

DOCUMENT NUMBER: UNNUMBERED/800801

DOCUMENT TITLE: RADIOACTIVITY INVENTORY REPORT

AUTHORS: ORNL

DOCUMENT TYPE: REPORT

DOCUMENT DATE: 00-00-43 THROUGH 00-00-70

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COPY RIGHTED MATERIAL: NO

800745



INTERNAL CORRESPONDENCE

NUCLEAR DIVISION

POST OFFICE BOX 1410, PADUCAH, KENTUCKY 4200

To (Name) Mr. R. G. Jordan
Division Y-12 Plant
Location Oak Ridge, Tennessee

Date May 3, 1974

Originating Dept.

Answering letter date

Copy to Mr. R. C. Baker
Mr. J. L. Clark, w/o encl.
Mr. G. T. Hull, w/o encl.
Mr. R. W. Levin, w/o encl.
Mr. C. J. Parks, w/o encl.
Mr. A. M. Tuholsky, w/o encl.

Subject Radioactive Release Inventory

Enclosed are the original and three copies (reduced to 8-1/2 x 14) of Form 789H completed for each release point for the "Inventory of Radioactivity in the Environment On or Near AEC Sites." The uranium estimated to have been released to the environment differs from that contained in the Radioactive Inventory Report sent to you on November 9, 1973. The November report estimated the amounts of uranium released and used judgment in deciding the amount which stayed onsite, was released offsite, etc. This inventory lists only the amounts believed released. No judgment is made as to the quantities of uranium which leave the plantsite from accidental UF₆ releases. Stack releases are assumed to be effluents and released offsite. Only uranium losses of three kilograms or larger and which are documented in material release reports are included. Also, radioactive effluents which were listed in the 1969 and 1970 Radioactive Effluent Monitoring and Control Reports are included.

Emissions from stacks and liquid effluents which have not been documented in the above reports were not included. For instance, the C-404 Solid Radioactive Waste Pit may have discharged somewhere between 500 to 3000 kilograms of uranium per year from rainwater leaching from 1957 through 1968. However, these losses were not documented and have not been included.

A map has been prepared showing the numbers assigned to new effluent and release points. This map has been labeled "Map Number 2" to distinguish it from the map which is used in the annual effluent report.

J. L. Clark
For C. C. Hopkins

CCH:arl

Enclosures: Form 789H
Map

Summary

This inventory lists only those amounts of radioactivity believed to have been released ~~into the environment~~. ~~Stack releases~~ Stack releases are assumed to be effluents and released offsite. No judgement is made as to the quantities of uranium which leave the plant site ^{onsite} in accidental UFe releases. Only uranium losses of three kilograms or larger and which are documented in material release reports are included.

Emissions from stacks and liquid effluents which have not been documented were not included. For instance the C-404 Solid Radioactive Waste Pit may have discharged somewhere between 500 and 3000 kilograms of waste per year from rainwater leaching during 1957 thru 1968. These estimated losses were not documented and have not been included. Also, no data have been included regarding the ^{possible} probable loss of transuranics in liquid effluents.

A map is included showing the numbers designating past effluent and onsite release points. This map has been labeled "map number 2" to distinguish it from the map (map number 1 previously submitted) designating current release points used in the annual effluent re-

Summary

The radioactivity inventory for the Y-12 Plant is submitted in the form of computer cards and associated print-outs by agreement with the Environmental Protection Branch, Oak Ridge Operations Office. The computer cards were prepared in accordance with the AEC Form 289 format. The data reported are the most complete information available on discharges to onsite and offsite environments.

The quantities reported for airborne releases, New Hope Pond effluents, and the one year onsite discharges to S-3 Ponds were obtained from the Y-12 Plant's Nuclear Material Reports. These data are reported by fiscal years since this was the form in which the data was recorded. Definitive data prior to FY-1972 for onsite discharges to S-3 Ponds was not available in a form suitable for this report. Prior year discharges to S-3 Ponds had been added to burial ground and pit discards and reported by SS Accountability in Category 1, Burial Ground and Pits, Reports.

Data on releases via Bear Creek are reported by calendar year and were taken from Radiation Safety Department records of the analyses of Bear Creek effluents.

There were no new reportable release points, thus, a new location was not included.

Office.

were prepared in accordance with the AEC Form 289 format. The data reported are the most complete information available on discharges to onsite and offsite environments.

The quantities reported for airborne releases, New Hope Pond effluents, and the one year onsite discharges to S-3 Ponds were obtained from the Y-12 Plant's Nuclear Material Reports. These data are reported by fiscal years since this was the form in which the data was recorded.

Definitive data prior to FY-1972 for onsite discharges to S-3 Ponds was not available in a form suitable for this report. Prior year discharges to S-3 Ponds had been added to burial ground and pit discards and reported by SS Accountability in Category 1, Burial Ground and Pits, Reports.

Data on releases via Bear Creek are reported by calendar year and were taken from Radiation Safety Department records of the analyses of Bear Creek effluents.

There were no new reportable release points, thus, a new location map has not been included. Data on stack releases for prior years were not documented by individual release points. Reported stack releases represent the entire Y-12 Plant airborne releases and were assigned an arbitrary release point number, point 59, for reporting purpose.

Radioactivity Inventory Report

Calendar Year 1943
through
Calendar Year 1970

Oak Ridge National Laboratory

Operated by

Union Carbide Corporation - Nuclear Division
Post Office Box Y
Oak Ridge, Tennessee 37830

Summary

The attached forms present the annual onsite discharge and effluent release data for the twenty points shown on the referenced maps. Nineteen of these points are at the ORNL site and one is for an ORNL operation at the Y-12 site. In general, the data presented in these reports were obtained from analyses and associated flow or volume data. In some instances, however, the data were estimated; this fact and the method of estimating the data are shown on the reports.

Where quantitative data are not available or past reporting is not required because of the small quantities or short half-lives involved, reports were made covering the entire period of operation on one form. Appropriate remarks are entered in Section 1 to explain why no data are presented. These reports were made to indicate that these release or discharge points did or do exist.

Since past records show only the amount of waste pumped to Waste Pits 2, 3 and 4, collectively, these three pits are considered as one onsite discharge point. Although the original operation of pumping intermediate level waste to these pits has been discontinued and Pits 2 and 3 have been covered over, this discharge point is shown as being active because sludge containing very little activity from the Process Waste Treatment Plant is being deposited in Pit 4.

Radioactivity Inventory Report

Calendar year 1943

through

Calendar year 1970

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